640.5 J82

VOL. VIII, No. 1 JANUARY, 1916

THE Journal of Home Economics

For those interested in Homemaking, Institution Management, and Educational Work in Home Economics

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CONTENTS

THE HIGHEST EDUCATION FOR WOMEN . . . . . *Julia C. Lathrop* 1

THE INTERNATIONAL OFFICE OF HOME ECONOMICS 8

AIMS AND WORK OF THE NATIONAL SOCIETY FOR THE PROMOTION OF INDUSTRIAL EDUCATION *Cleo Murtland* 10

THE USE OF SCHOOL ROOMS AND EQUIPMENT 16

THE MAKING OF A BUDGET . . . . . *William Morse Cole* 17

AN APPLICATION OF STATISTICS TO BUDGET MAKING FOR LUNCH ROOMS . *Rovana H. Vivian* 19

A STUDY OF CONDENSED AND EVAPORATED MILKS . . . . . *Ida A. Bengston* 29

FOR THE HOMEMAKER 33

AN EXHIBIT OF INSTRUCTIVE VISITING HOUSEKEEPING . . *Jane Teare Dahlman* 33

HOUSEHOLD CHEMICAL TESTS FOR TEXTILE FABRICS . . . . *Jean G. Mackinnon* 36

POTATO STARCH AND ITS USE IN THE HOME 38

PROFITS IN COMMERCIAL BAKING, AND THE HOUSEKEEPER 39

THE COMPARATIVE COST OF HOMEMADE AND BAKER'S BREAD . . *Annabelle Marsh* 40

BACTERIA IN THE AIR 41

EDITORIALS 43

BOOKS AND LITERATURE 45

BIBLIOGRAPHY OF HOME ECONOMICS 49

NEWS FROM THE FIELD 51

The Journal of Home Economics is published monthly by the American Home Economics Association.

$2.00 A YEAR. FOREIGN $2.25. SINGLE COPIES 25 CENTS

HOW TO REMIT. Remittances should be sent by Draft on New York, Express Order or Postal Money Order, payable to the American Home Economics Association. Currency, unless mailed in a registered letter, is at the sender's risk.

CHANGE IN ADDRESS. Notice of change in address should be sent Two Weeks before the date of issue on which the change is to take effect. The subscriber's Old Address should be clearly indicated in addition to the New Address.

AMERICAN HOME ECONOMICS ASSOCIATION STATION N, BALTIMORE, MD.

Entered as second class matter at the Baltimore Post Office

THE INTERNATIONAL OFFICE OF HOME ECONOMICS, FRIBOURG. (SEE PAGE 8.)

THE
Journal of Home Economics

VOL. VIII JANUARY, 1916 No. 1

THE HIGHEST EDUCATION FOR WOMEN[1]

JULIA C. LATHROP

Chief of the Children's Bureau, Washington

For fifty years what is known as the Higher Education of Women has been a policy, whose growth is sign enough of the approval it has earned. The higher education of the great group of women's colleges just established has been and still is purely cultural, avowedly and inevitably offering to women the precise cultural studies offered to men, keeping pace with implicit faithfulness with the development of cultural courses in the leading schools for the education of men.

How and why these cultural courses have widened might well be the subject of a careful study. The changes are a conservative running index of what we like to believe is the growing democracy of our intellectual interests: but the point is that these courses are offered as cultural, part of the unspecialized training of an educated person, or part of the training preliminary to special training. Perhaps there is no one left to question the ability of women to take in and take on this culture. At any rate for our purpose let us consider closed the question of assimilation.

On the basis of this cultural study, men's colleges have added professional schools in growing variety, serving the needs of a few thousands each in pursuits dignified and useful but not absolutely essential to the existence of the race. To certain of these schools women have been

[1] This address was given on October 11, 1915 as a part of the celebration commemorating the fiftieth anniversary of the opening of Vassar College. It is reprinted from the official record of the celebration.

more or less painfully admitted; but they remain men's schools for men's pursuits, and the great foundations for original research are men's foundations. And the intimations that women's powers are powers of assimilation only continue to be heard.

The very words higher education challenge us to the superlative and push us to the subject I have ventured to state. What is the highest education of women and what are some of its immediate possibilities? No one would be bold enough to say that we can discern all these possibilities, and as for the ultimate development of the education of women, it is as far beyond our ken as the Vassar Campus is beyond the imagination of the cave-woman. May I venture to define crudely the highest education of our day as that which upon a cultural basis gives the mind an ardor for discovering facts and relating them to the truth, and which provides the technical equipment of training for independent research.

Recognizing the scope of the graduate professional schools, the wide sweep of the great foundations for original research, it becomes increasingly apparent that there is one great interest not yet made a subject of that study for which the highest education prepares.

The one great avocation constantly requiring the unsparing service of millions of women is the rearing of children and the conduct of a household. The most universal and essential of employments, it remains the most neglected by science—a neglect long hidden behind tradition and sentimentality.

Can women of the higher education do less than undertake to put an end to this neglect, to begin to place investigation and research directly at the service of the cult of the family, and to start forward on paths by which the most important calling in the world shall gradually acquire professional status?

The highest education of women, then, I wish to define in terms of the needs of our own time, as training in original research applied to the life and interests of the family.

Women of the higher education have vindicated the value of freedom for individual development. The family type based upon equal individual culture of both parents gives a further vindication of women's higher education. Family democracy can only lead toward social democracy—slowly, indeed, but surely.

Undoubtedly the family has been gradually gaining in efficiency and in refinement since rivers ran to the sea. Yet as Ellen Richards laboriously analyzed those waters and showed us how to keep them pure for

human use, so, we may be sure, the study of the family will reveal new material and moral standards and the practical means of securing them.

As a few evidences of the need of study of the family, we need only remind ourselves that we do not understand life at the source, nor the reasons for its known wastage, nor how to economize the health and well-being of the race by minimizing this wastage. The subject has been regarded with such fatalistic indifference that we do not yet know how many children are born, nor how many die, nor why they die in our own country, while the more intensive knowledge of infant well-being which would enable us to establish convincingly its relationship to social well-being and to the rectitude and intelligence of parents is yet to be secured and analyzed.

We know strangely little of the growth of the child's mind. Not long ago the advice of a distinguished alienist was sought as to the practical value of studies of the mental development of normal children in earliest infancy and during the years before the school and the outside world directly affect the child. He replied that such studies are of the highest value, that their primary usefulness as aids in working out the best home training of all children goes without saying; and that naturally enough he thought of them as especially needful because of the light they would throw on the baffling questions with which an alienist wrestles in dealing with the history of mental disaster. Such studies can be made only by the aid of the observations of individual mothers. Is it not a complete revelation of our unconscious relegation of the processes of human development to the limbo of instinct that, while there are perhaps thirteen million mothers in this country, there are at best about a half dozen such studies (made by fathers and mothers jointly), and in attempting a plan for such studies a great difficulty is present in finding a competent director?

We do not know the constitution of the American family. I speak of thirteen million mothers, but that is only an estimate based on the enumeration of women who are heads of households. No one really knows. The government census has never been directed to state the number, though this and much other precious information as to the constitution of every family in the country lies unused upon the millions of untabulated schedules filed away for the last thirty years in the census archives.

We do not know how extensive is the industrial employment of married women, nor its effect upon children and family life, nor when it

is a result of a scale of wages for men too low decently to support a family, nor whether it is sometimes the cause of a low scale of wages for men, nor when it is fair to all concerned, including society at large, that mothers should work for hire. Worst ignorance of all, we do not know what is the decent support of a family, nor the factors that affect the question in a world where democratic efficiency is still only beginning the struggle up from feudal efficiency.

All these are questions whose answers can never be complete nor right until they are expressed in terms of the family.

If we cared to ask, these unregarded census figures could tell us various facts which are now seeming mysteries. They could tell the numbers of married women in industry, their ages, the ages and numbers of their children, how many children have lived and how many have perished, the occupation of the fathers and mothers and where the loss of child life is greatest. It would give an intimation of the numbers of families whose mothers are burdened and whose privacy is infringed by lodgers and boarders. Yet there has been no demand for this information, and the material gathered in 1890, in 1900 and in 1910 has remained untouched.

Does the question of domestic service interest you in an academic or a practical way? The unpublished census figures hold the complete history of the shifts in the nationality and distribution of this service for thirty years. Would you know how many families have servants? Would you know how many women perform with their own hands every daily task for their husbands and children? The answers are in the unpublished sheets of the census.

I have referred thus in detail to the vast resources of unused information which the government already possesses in regard to the family because I know of no other illustration which indicates so clearly our national neglect—the unconsidered neglect of students, the unconscious indifference of the public—in a field where it is complacently taken for granted that our emotions and personal interests guarantee our efficient attention.

Again, if the structure of the family is unstudied, still less is its dissolution understood. The profounder causes for those disasters which only emerge in the divorce court among persons of appreciable income are not indicated by the oft-quoted census figures of 1910 which show that one in twelve of the marriages in the United States ends in divorce. May it not be that the efforts of law and religion to cope with family

breakdown lack success because to its study have not been called the wisest representatives of those who inevitably suffer most in disastrous marriages, the women of our country?

Again, women are increasingly the direct retail purchasers of the country. We need education in family expenditure, in the prudent apportionment of an income, in discrimination as to the quality of every article and function which enters into the family life. Here we are confronted perhaps more simply and directly than in apparently larger issues with the fact that no family lives to itself alone. For years a little group of people have urged the purchaser's responsibility, first because unwholesome conditions of production may bring injury to the family of the purchaser, but finally and conclusively because bad conditions of production certainly injure the producer's family, and once our eyes are opened we see a thousand proofs that the injury of one family is the concern of all.

We may well be proud of the scholarly work of the Vassar faculty and alumnae in many fields, but at no point more than here, where pioneer studies in domestic economy by Ellen Richards and Dr. Salmon have pointed the way for future independent students.

I am not unmindful of the tragic family importance of that helpless residue of social wastage whose index is the population of our charitable and penal institutions, yet I believe that a greater promise of usefulness lies in studying normal life. May it not be that this very social wastage will be saved, not by repression nor cure nor prevention, but by construction, by strengthening the general fabric of human society as the physician combats disease by increasing the bodily vigor and its power of resistance.

Consider what the mere establishment of a single center of training for research in the problems of the family would mean. Would it mean less for family life than the founding of this college meant for the individual student? I think far more, because it could build upon that cultural basis which the last fifty years have developed. Perhaps wisely our greater women's colleges have thus far kept aloof from any interest in the practical arts of daily family life. Yet independently a wide movement for bettering the household has begun, helped by the re-discovery of the preciousness of the worker's hand along with the scholar's eye.

The public schools have given us manual training and kindergartens and finally cooking and sewing; the state normal schools and the state

universities have developed teachers' training classes in domestic science; a few public schools have begun to teach practical housewifery in a practical manner; and city health departments have developed Little Mothers' Leagues. There are a few notable instances of rural schools which are also the teachers' homes in which the usual work of daily life is well taught. Certain technical institutions and girls' schools offer practical instruction in domestic arts.

Nowhere is there any center for research and discovery, nowhere a center where choice minds are devoting their powers to the philosophy of the inevitable labors of the average household, to developing by original study improved care of the young who must be matured there, new expedients for enriching the lives of the adults who should be happy there. Nowhere patient research gives the authoritative sanction which would elevate into a national system, strong, free, elastic, the cult of the American family.

A graduate school would train a certain number of persons in the art of independent research in various fields. It would necessarily be also a center of research because such training must be done by contact with actual problems. Much of its work would be extra-mural. It could, for instance, enlist the aid of many thousands of mothers every year.

Such centers of research would serve to correlate and inspire the many scattered educational activities now existing, all of which are making more effective the work of the average household by placing at its service the inventions and appliances of modern science.

Nothing could be more unfortunate than any effort to control the practical teaching already under way:—nothing, on the other hand, more helpful and welcome than centers of original study to which practical people could turn for inspiration and help. And in turn such centers would by their extra-mural relation be kept constantly aware of the practical aspects of their varying studies.

Are some of you thinking that this is far-fetched? That, after all, wisdom makes its contribution through the individual to the home finally, that good parents—the only numerous class of parents—create good households and that the natural devotion of mothers can still be trusted?

May I reply that mother love can be trusted, but that we presume upon it. Maternal affection is the most precious survival of instinctive life. By its motive power millions of women daily perform miracles

of patient toil, but Nature has withdrawn from the human mother the instinctive wisdom which, as Fabre has shown, she bestows so lavishly upon the hymenoptera.

What may we not hope for the future of the race when we put at the service of the human mother's intelligence the continually growing discoveries of research?

I do not propose a small thing nor a cheap thing in urging that the present status of the education of women demands a new specialization to be signalized by the creation of centers of study and research in the service of family life. It means not only great endowment of money, it means the greater endowment of trained minds set to the task of working out the expedients of fashioning the tools of expression by which that profound maternal instinct, reinforced by intelligence, may freely work out the destiny of the young of the race.

It is no less than a revolution which is implied. Its aim is to give the work of the woman head of a household the status of a profession. The change in this direction has already begun and I have referred to the many beginnings of teaching applied household economics as a sign of the coming change. The question is whether the women of the higher education shall strengthen the movement directly and avowedly.

Earlier, when individual development was the goal of education, how often was it said of a woman, "Now she is married. What good will all that education do her?"

With the highest education creating great centers of study through which to utilize and coördinate the observations of mothers, do we not begin to see at once a new application for the higher education?

Mothers of the next generation will need, not to resign themselves to the limitations of their fate, but rather to equip themselves for its illimitable opportunities. Instead of being isolated by the narrow life of home, through it the mother allies herself to the highest studies and makes invaluable contributions as a sheer by-product of her daily cares.

The legal emancipations of women are coming fast. The rapidity of her further educational emancipation rests with herself. Now it is partial; the recognized professions she may enter—those which will always invite a small minority of women. It is for her to make the great occupation of women a profession, to see that the highest education trains those who shall contribute toward that profession's success.

Posterity will smile at the naïveté with which some of us incline to consider women no longer economically useful because the factory has

freed mothers from certain subsidiary domestic arts. In truth she now begins to have time and vision to see that there are real and growing arts in the physical care of the young, in the development of the childish mind and behavior. Above all, the mother of today may look outside her own door. She is gaining an understanding that no home prospers or perishes to itself alone; that the doors of all homes open on the highway of a common happiness, and that economic values are human values.

We begin to see in richer terms the equitable meaning of society and to see in the development of that meaning a task to be preferred by women chiefly, which will demand all the time and wisdom they can summon.

I have spoken of women and to women, and for that very reason it must not be left unsaid that in American civilization as nowhere else in the world women may count in their own task upon the aid of the one force more wonderful than maternal instinct, that purest product of civilization, the devotion of a father.

The initiative for the highest education applied to the service of the family rests with women. The carrying out must be done jointly by men and women, since, diverse as may be their daily tasks, the interests of men and women cannot be separated; both are joined in the great onward march of the race toward that mysterious end which we love to call justice.

THE INTERNATIONAL OFFICE OF HOME ECONOMICS

American workers in Home Economics have little opportunity to become acquainted with the work done along similar lines in the other countries or to know their foreign colleagues. They will, therefore, welcome contact with such an organization as the International Congress for teaching of Home Economics (Congrès International de l'Enseignement Ménager) and its permanent Office at Fribourg, Switzerland. Fribourg, or Freiburg, is the capital of the French-German Canton of the same name, a picturesque old city on the main line from Berne to Lausanne, and should not be confounded with Freiburg-im-Breisgau in the Black Forest, or with the Prussian Freiburg. Apparently it was chosen as the meeting place of the first International Con-

gress (1908) and for the permanent Office not only because Switzerland is always an inviting and appropriate center for international associations but also because it had been headquarters for much of the preparatory work of the Congress. Since 1913 the Office has been under the able direction of M. Léon Genoud, to whom we are indebted for the photograph reproduced as the frontispiece.

It is gratifying to see the prominent position held on the walls of the Director's room by our familiar friends, the food charts of the United States Department of Agriculture, and also to recognize Mrs. Richard's picture nearby. Miss Stanley, who reported the Second Congress, held in Ghent in 1913, for the JOURNAL (vol. 5, 1913, p. 382) and to whom the JOURNAL is much indebted for material concerning the Fribourg Office, which she visited that same year, was much impressed by the excellent collection of Home Economics literature which filled the book shelves, especially that of the textbooks used throughout different parts of Europe. She suggests that Americans might prove their active sympathy with the work of the Office by sending it any of their publications likely to be of interest. The Fribourg Office aims to be an international clearing house for material on Home Economics subjects, and has shown plainly both by the notes published in its quarterly bulletin (Bulletin de l'Office International de l'Enseignement Ménager,) and by M. Genoud's correspondence with Home Economics workers in this country, how highly it values American publications and also personal contact with and information regarding work and workers in the United States. We, on the other hand, can glean much of interest from the bulletin of the office which is (as far as is known to the JOURNAL) the only publication which regularly summarizes Home Economics news from many countries. It also serves to introduce to us many foreign workers and publications of which we should otherwise know nothing. The address of the editor is l'Office International de l'Enseignement Ménager, Fribourg (Suisse) and the annual subscription within the postal union is 25 cents (1 fr. 25 c.)

In spite of Switzerland's neutrality, her ordinary activities have been so interrupted by the war that the Office has been forced temporarily to publish the Bulletin in double numbers at six instead of three month intervals. The same cause put an end to plans for the third Congress, which was to have heen held at Leipzig in 1915, but the general work of the Office seems to be running with sufficient smoothness to insure its regular continuation as soon as conditions in Europe become normal once more.

AIMS AND WORK OF THE NATIONAL SOCIETY FOR THE PROMOTION OF INDUSTRIAL EDUCATION[1]

CLEO MURTLAND

Secretary in Charge of Women's Work

RECOGNITION AND SUPPORT OF VOCATIONAL EDUCATION

Thousands of children leave the schools each year without having completed the elementary school course which has practically become a minimum requirement for intelligent citizenship and a successful vocational career. Much as society believes in elementary education and secondary education as preparation for life, it is face to face with the fact that although both are provided, only 50 per cent of our young people complete the elementary school course and 10 per cent the high school course.[2] There is reason to believe that a large proportion of these children can be reached effectively by a type of vocational education which combines practical intensive work in industrial subjects with instruction in related and general academic subjects. It is also believed that such training and instruction will not only tend to make the education of these young people more effective, but that it will increase the number of years of schooling before employment and gradually bring about part-time courses after employment and thus greatly increase the learning period in the individual's life. Under the present régime too many young people go to work unprepared to meet the demands of industrial and commercial life and as a result fail to become successful wage earners and intelligent citizens. They have lost their interest in study; they do not know how to think out their problems and so have neither interest in the school which might help them, nor sufficient intelligence to advance in their chosen vocations.

The National Society believes in the established vocational education for the professions, for commercial pursuits, and in the high school courses which fit those who qualify for the college course. It believes in general education for all children. It believes that a stronger vocational element is needed in general education than it has at the present time. It believes in instruction in homemaking subjects for all girls

[1] Written for the Eighth Annual Meeting of the American Home Economics Association, Seattle, 1915.

[2] Laggards in Our Schools by Leonard P. Ayres, New York City: *The Survey Associates*, 1914.

as part of their general education. It also believes that the vocational school organized and administered for the purpose of preparing young people for a useful occupation, is not worth the name if it fails to include as a part of the course a considerable amount of general education and general courses in the household arts that will assist in the work of the home. The largest interest of the National Society is concerned, however, with the vocational education which fits boys and girls for profitable employment, an important part of preparation for life which approximately 50 per cent of the young people are not receiving under present conditions. To this end the work of the Society is directed.

The National Society does not believe that choice of occupation should be forced upon young children of fourteen years of age; nor does it believe that vocational education should take the place of general education, but it does believe that vocational education should supplement general education and should be begun at the time when interest in work and wages is beginning to supplant interest in the general courses. The age at which specific vocational training should begin varies, therefore, according to the demands of the pupils and the community in which they live. Preparation for a vocation undoubtedly helps to guard against exploitation (for it is the untrained, unintelligent worker who is exploited), and furthermore, it is the best means for safeguarding the young worker from being tied to one job for life—the one job which gives no desire for successful work or opportunity to rise above the entrance level.

The vocational courses for these children, to be real, should cover as many lines of vocational work as the community affords and should be planned to meet the needs of the community, its industries, shops, factories and stores. Hence the National Society believes that vocational education is largely a local problem and that surveys and studies of local industries, shops and stores are essential to successful vocational courses.

Too much education is aimed toward the president's chair and too little toward the problems near at hand. Vocational education that enables boys and girls to succeed in their own community may safely be trusted to give them the start in life they are entitled to, and to insure intelligent citizenship and desirable advancement as experience and opportunity make it possible. Nothing short of a fair start in life for girls as well as boys, makes for the democratic education which this nation stands for.

WHAT THE SOCIETY HAS DONE TO FURTHER VOCATIONAL EDUCATION

1. Coöperation among the industries, organized labor and educational bodies for the purpose of bringing together for concerted work all those interested directly and indirectly in Vocational Education has been a very important part of the work of the Society.

2. Conferences of superintendents, supervisors, state administrators, teachers, and others have been held periodically for the purpose of establishing standards for vocational education.

3. Constructive work has been done in methods for training tradesmen and tradeswomen for teaching positions in the schools through classes for men at Pratt Institute and classes for women in Indianapolis.

4. Its bulletin for short-unit courses published by the U. S. Bureau of Labor Statistics is being used as a basis for part-time and night courses.

5. Much assistance has been given to State Agents for Vocational Education in organizing and administering vocational schools.

6. The National Society believing that a survey of the schools and of industry should be made before the establishment of vocational schools, has made two such surveys, one in Richmond, Virginia, and one in Minneapolis, Minnesota. It has also made studies of specific industries in several cities for the same purpose.

7. Legislation for vocational education has been written by the Society and its policies regarding the types of schools, courses of study, and methods of teaching are being adopted by many states and local communities.

8. Propaganda for vocational education that will fit young people for profitable employment through lectures, conferences and publications has been an important part of the work of the Society.

9. The Society has added very materially to the literature on vocational education through bulletins published by the Society, by the United States Bureau of Education, the United States Bureau of Labor, and reprints of magazine articles on vocational education. It has also distributed widely state bulletins and other printed matter bearing on vocational education.

WHAT THE COMMITTEE ON WOMEN'S WORK HAS DONE

The Committee on Women's Work has for the past two years been working in close coöperation with the Secretary, Dr. C. A. Prosser, the

Board of Managers and the Executive Committee of the Society, for it is the very strong desire of the women engaged in the vocational education movement to keep the work for boys and girls one strong unit.

The Society has used its influence toward the establishment of vocational day schools which will prepare for useful occupations but the vision for all phases of vocational education far exceeds what young people may be able to learn before they take up their work. It looks forward to part-time education after going to work—a return to the school from time to time for short courses in vocational and general school subjects which will keep alive interest in study and reading and make success possible. Coöperation of the school, the home, and the business world which is being brought about will do much to make part-time training practicable and effective.

The Secretary in Charge of Women's Work has made studies, in a number of cities, of industries employing women. In Philadelphia, a general study of the need for a vocational school for girls was made and report was made to the Board of Education in December, 1914. There is hope that under the new law in Pennsylvania, which makes school attendance to sixteen years compulsory, a vocational school for girls will be established in that city. A study of the dress and waist industry with a plan for a part-time factory school for workers in the industry was made in the spring of 1914 and published by the U. S. Bureau of Labor. A brief study of a few phases of the garment trades of Boston for the Advisory Committee of the Boston Trade School for Girls was made in February, 1915. A study of the garment trades of Cincinnati in coöperation with the Chamber of Commerce and the Board of Education was made during the early summer of 1915. Cincinnati opened its vocational school for girls in September.

For the *Richmond Survey*, the tobacco industry and the department stores were studied and recommendations regarding the training of workers were made. Six trade studies were made in Minneapolis, department stores, dressmaking and millinery establishments, knitting mills, garment industries, laundries and home making.

The purpose of these surveys and studies of specific industries is to determine the kind and amount of general education and vocational training that may be given to prospective workers before they become wage earners, and to what extent education and training may be continued after they have become wage earners.

Studying an industry does not mean necessarily that a course of study and scheme of training workers may be set up. There is a growing need for studies which give information about many of the so-called unskilled industries in which women are employed as well as those demanding skill of the workers. The chief contribution of the study of the tobacco industry was ascertaining that there is no teachable content which the school could or should undertake to teach. Thus some of the studies give negative reports; others give much that is new and constructive and a better understanding of industry and its demands upon workers is gradually being brought about.

The National Society recognizes the fact that many of the trades, such as dressmaking, millinery, laundry work, waitress work, cafeteria and tea room work have grown out of the occupations of the home and, therefore, concern the American Home Economics Association as well as the National Society; the former in their relation to making a better home; the latter in their relation to profitable employment. Thus, an unavoidable overlapping of interests exists.

Reports for Troy, N. Y., Philadelphia, Richmond and Minneapolis have all touched upon Home Economics to some extent. In making studies and surveys such as those referred to, when the question of the homemaker and the employed worker in the homes arises, the committee prefers to deal with this in coöperation with women engaged in the Home Economics field. Thus, in Minneapolis the department of Home Economics of the University of Minnesota, and the Home Economics Department of the Women's Clubs had immediate charge of that part of the survey under the direction of the general Survey Committee.

FUTURE PLANS

Studies and surveys of women's work will doubtless continue for some time. More information about the woman wage-earner and the demands that work makes upon her is urgently needed and more comprehensive knowledge about the work of the woman in the home is also needed. The National Society is desirous of having these studies and surveys regarding the women's work reach out into as many occupations for women as possible.

The National Society is deeply interested in the training of teachers for vocational schools. It believes that professionally trained teachers

with interest and experience in industrial and trade work as well as trade workers with interest in and ability to teach the trade subjects are needed in the vocational schools. Academic subjects related to industrial or trade subjects as well as the general and cultural academic subjects should be taught by persons who in addition to professional training and skill in teaching understand and appreciate the demands of industry; physical education should be taught—such personal hygiene and preservation of health and strength as will make for happiness and efficiency; instruction in trade subjects as preparation for a vocation should in the main be taught by trade workers who have learned the trade processes by years of training and experience in the trade. A few teachers with technical preparation in practical subjects are also needed. Professional and technical training are well provided for, but instruction in teaching methods and class management for trade workers is only beginning to be developed.

Pratt Institute has conducted for the past two years a class for men's trades preparing for teaching positions under the direction of Wesley A. O'Leary. A course in teaching methods for women trade workers was given by the Secretary in Charge of Women's Work during the past summer for the Indiana University under the direction of the Department of Industrial Education. The course was given in Indianapolis, the nearest large trade center to the University. Thirty sessions of three hours each were held. Lectures, discussion and practical demonstrations made up the work of these sessions. Afternoons were used for excursions to places of interest in vocational work. Eighteen tradeswomen, selected from ninety applicants, were enrolled. Professionally trained teachers were not eligible to the course which was planned specifically for experienced tradeswomen who desire to teach in the vocational schools of the state. More work of this kind is greatly needed. Trade workers cannot forego earning for a year or two in order to prepare for positions that are not assured. Much may be done to build up good teaching standards and to preserve for the school the essential features of trade and industrial work by carefully organized short courses.

That the work for girls and women shows greater promise of advancement than ever before is shown in the following:

At a meeting of the Executive Committee in June, it was voted "To put special emphasis on the work for women during the next few years, in order that this phase of the problem may receive the same considera-

tion and study that has been given to the men's work." This action on the part of the Executive Committee of the Society gives great encouragement to the committee on women's work, and every effort will be made to use to advantage the additional interest and support thus gained to further the vocational training of our girls and women.

Interest in the problem all over the country is coming from other sources as well as from the National Society. It indicates that the time has come for greater and more extended development of the cause. Concerted effort among workers, employers, parents, teachers, and educational and social agencies will do much to hasten results and bring about better working conditions and a higher status for all women workers.

THE USE OF SCHOOL ROOMS AND EQUIPMENT

Sometimes, particularly in small schools where cooking classes would meet but once or twice a week, a room cannot be spared for such limited use and the work is not introduced. In the temporary building used for the first two years of its existence by the School of Education of the University of Chicago the school kitchen was equipped with common kitchen tables that could be rearranged, or removed if necessary, and the gas supply pipes had a screw connection with a shut-off cock at the floor, so that they could also be removed, leaving the room free for any purpose.

This is by no means ideal, but it is far better than no work at all; and the willingness on the part of the teacher to adjust herself to such conditions often aids in bringing about a spirit of coöperation in the school that counts for more than the most elaborate equipment.

In many better equipped schools it is still necessary to use the same room for cooking and sewing classes. From one such school this question came: "What is considered the best covering for cooking tables which are used also as cutting tables in sewing classes?"

In reply the suggestion has been made that valspar varnish be used or white enamel paint plus valspar varnish.

Are there any other suggestions?

THE MAKING OF A BUDGET

WILLIAM MORSE COLE
Harvard University

Much is heard today about the desirability of conducting business on the basis of a budget prepared before the beginning of each financial year. Many urge that the budget be drawn up in great detail, specifying the amounts that may be expected from various sources of income and the amounts that officers shall be authorized to expend on various kinds of outgo. Usually a business cannot predict very clearly what its income is likely to be, and, although generally one can foresee more clearly what expenses are probable, a budget that specifies expenditures in much detail tends to hamper the executive officers in shifting their expenses from one line of activity to another when by so doing they might take advantage of opportunities for economy. The correct policy, of course, is to adopt a budget which shall restrict the executive officers within certain large limits, so that they may be held up to responsibility not to exceed certain proportions in the distribution of their expenses and not to exceed a certain reasonable limit for expenses as a whole. Draughting a budget is consequently not only important but difficult.

Any contributions to an understanding of the art of budget-making are sure to be received by executive and financial managers with great satisfaction. The JOURNAL is fortunate in its ability to publish a contribution of this type from Miss Vivian, of the Department of Mathematics in Wellesley College and sometime financial secretary of the Women's Educational and Industrial Union, of Boston. Miss Vivian's paper shows for several groups of items related to one of the lunch rooms of the Union the budget estimates, based upon the experiences of the past, and the methods by which those estimates were worked out. Since the preparation of the paper, the financial year which the estimates were intended to cover has come to a close, and the figures of actual operations have been compiled. A comparison of expectations and realizations is not only interesting but confirmatory of the process adopted in the budget making.

One table in this paper is of special interest, aside from its interest as a contribution to budget-making, in that it illustrates a principle coming to be recognized as important in drawing up graphic charts.

The usual graphic chart shows fluctuations in actual amount or numbers, and when two lines to be compared have not virtually identical bases, variations in one set of figures go up or down to a greater or less degree than do similar proportional variations in the other—simply because the general scale or base is larger or smaller. The same proportional variation, therefore, will show in a wider variation in one line than in the other; so that an exact parallelism in the proportional movement of the figures fails to show parallelism of lines on the graphic chart. If, however, the two lines are drawn not to represent actual figures, but to represent the logarithms of the actual figures, so that every variation of each line is adjusted not only to the same base but to all other variations, the rises and falls of the lines will be parallel if the variations are proportionately parallel, and will depart from parallelism otherwise. This is illustrated by the comparison between Tables IX and IXa in Miss Vivian's article. In Table IX, it will be observed, the rises and falls are very much larger than in table IXa, and, what is more important, the parallelism between the two lines is much less noticeable than in table IXa. In the former table, since the base is larger for one line than for the other, the same proportional variation gives a much larger actual variation. In Table IXa, the variations of the lines show the proportional variations of the figures, and we can see from the parallelism of the two lines that the proportional variation of figures was virtually parallel. In many charts, some of which have been published widely and used for drawing important conclusions, the variations have been so much affected by the differences in base that the conclusions drawn by readers untrained in statistical method have been extremely misleading. The JOURNAL is accordingly glad to have opportunity to illustrate the differences between the two methods in a case which can be seen not to exaggerate that difference and yet to show clearly the advantage of the logarithmic scale when comparisons are to be made.

AN APPLICATION OF STATISTICS TO BUDGET MAKING FOR LUNCH ROOMS

ROXANA H. VIVIAN, PH.D.

Department of Mathematics, Wellesley College. Formerly Financial Secretary, Women's Educational and Industrial Union, Boston.

Statistical methods of forecasting the future have been used in various lines of work and appear to be not without value in the making of budgets. The following study was made in response to a request for statistical confirmation of a budget estimate, submitted in December, 1914, of the surplus to be expected for the Social Educational Work of the Women's Educational and Industrial Union from the Lunch Department of the institution for the fiscal year ending September 30, 1915.

The figures available were those for the four years from 1910 to 1914, since the method of accounting was fairly homogeneous over this period. In Table I these figures are grouped under food supply,[1] salaries, other expenses, overhead charges and surplus. The total expenses and total receipts are also given.

TABLE I

Division of lunch receipts
(Figures taken from published Annual Reports)

	1910–11	1911–12	1912–13	1913–14
Overhead	$11,721.41	$12,432.21	$10,331.15	$10,720.04
Other expenses	6,155.70	7,736.76	9,126.05	8,710.76
Salaries	26,947.73	27,855.26	30,825.68	30,960.39
Food Supply	47,407.86	52,025.42	55,855.49	55,931.96
Total expenses	$92,232.70	$100,049.65	$106,138.37	$106,323.15
Surplus	3,780.39	3,151.23	7,572.10	12,607.61
Total receipts	$96,013.09	$103,200.88	$113,710.47	$118,930.76

The total receipts for the four years showed an increasing business so that there could be no application of the Law of Averages to the actual amounts in dollars. In order to make use of the average in any of these items the percentages (ratio to total receipts) were calculated and are

[1] The term Food Supply means throughout this study the Food Supply actually used during the month, and Food Percentage is used in the same way.

given in Table II. The average percentages have also been included in this table. The two sets of figures given in Tables I and II are represented graphically in Table III. Similar items, whether given in dollars or in percentages, are placed in the same position in each column and with similar rulings.

TABLE II

Percentages

	1910–11	1911–12	1912–13	1913–14	AVERAGE
Overhead	12.2	12.0	8.9	9.0	10.5
Other expenses	6.4	7.5	8.4	7.4	7.5
Salaries	28.1	27.0	26.9	25.8	26.9
Food supply	49.4	50.4	49.1	47.2	49.0
Surplus	3.9	3.1	6.7	10.6	6.1

The averages had to be used with caution and in conjunction with all the information that the circumstances afforded, as the legitimate and complete application of the Law of Averages depends on a larger number of cases than were at our disposal. It was also necessary to bear in mind that certain items had been a good deal affected by the idiosyncrasies of Union bookkeeping, notably the overhead charges. These were abnormally high in the first two periods and later were arbitrarily reduced; but the effect of the overhead variation, as seen in Tables I, II and III, appears, of course, in the item of surplus rather than in the expense percentages. No use was made of the overhead percentage in this study.

The problem in making the Lunch Budget for the present fiscal year was to determine the following items: Amount of the year's business; overhead charges; salaries; other expenses; and food supply.

The probable volume of business was a difficult figure to estimate. September, 1914, showed an increase of $302.64 in receipts over September, 1913, and October, 1914, an increase of $252.88 over October, 1913; but these figures did not seem to be significant in view of the increase the business had been showing since October, 1910, as shown in Table IV. The decreases of $725.34 in November, 1914, and of $1139.04 in December were far beyond the normal and demanded more serious attention. Table IV shows the unusual extent of this decrease. The Director of the Lunch Department felt that a decrease that would average

TABLE III

Division of receipts in the lunch department

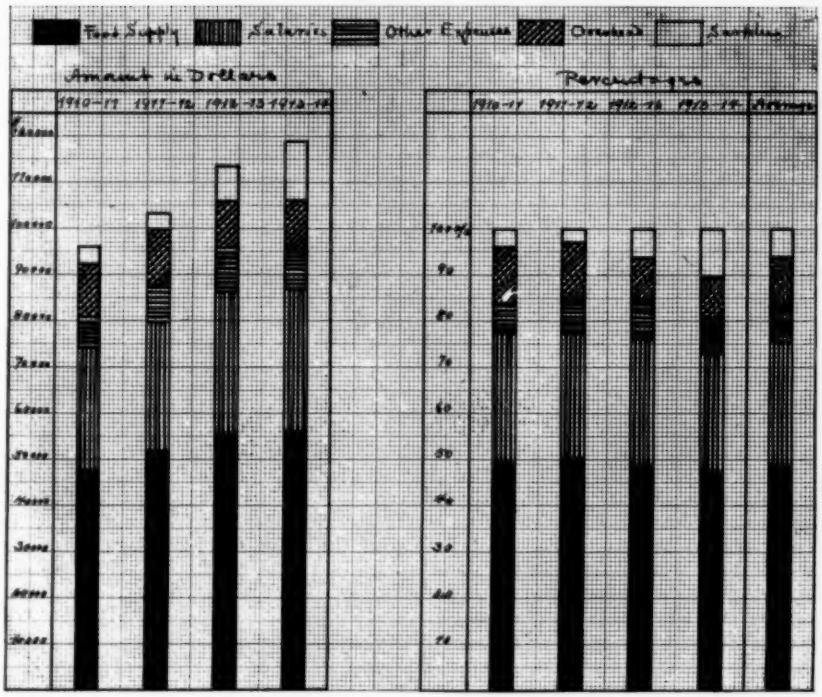


TABLE X

Comparative variation in food percentages in the lunch department and in the Annalist Index numbers. Food percentages, July 1912, to December, 1914. ——————
Annalist Index numbers, January, 1913, to December, 1914. .....

(In order to make the variations comparable the vertical unit for the food percentage is three times the unit for the index numbers.)

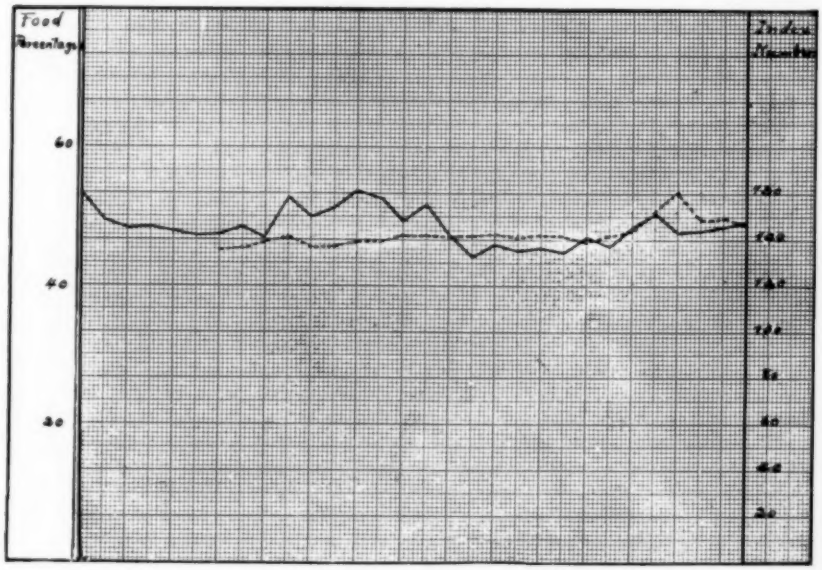


TABLE IX

Comparative variation in attendance and food supply. Attendance, July, 1912, to December 1914. ———— Food Supply, July 1912 to December 1914.

(In order to make the variations comparable the vertical unit for the attendance is three times the unit for the food supply.

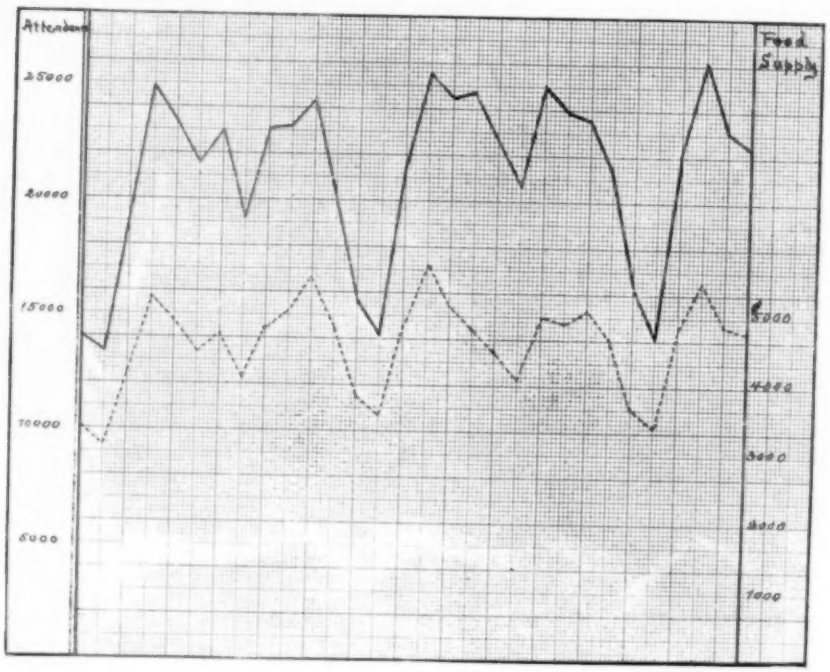


TABLE IXa

Logarithmic form of Table IX

(The marginal figures are the logarithms. The natural numbers might have been used, as in Table IX.)

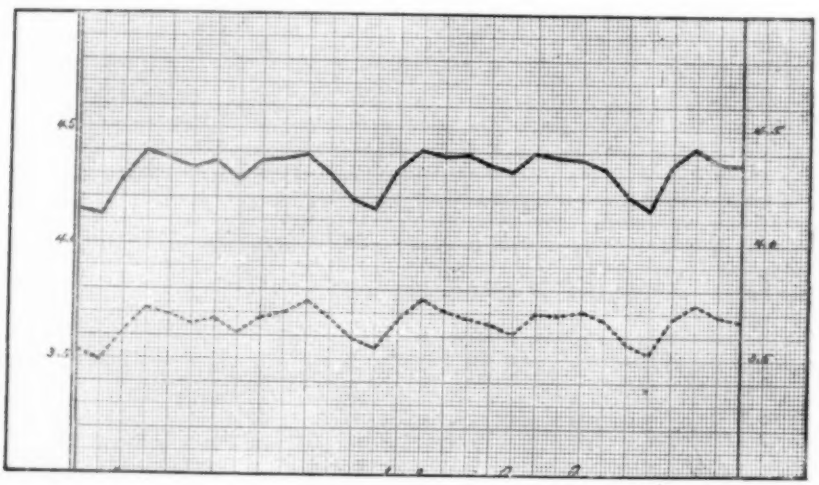
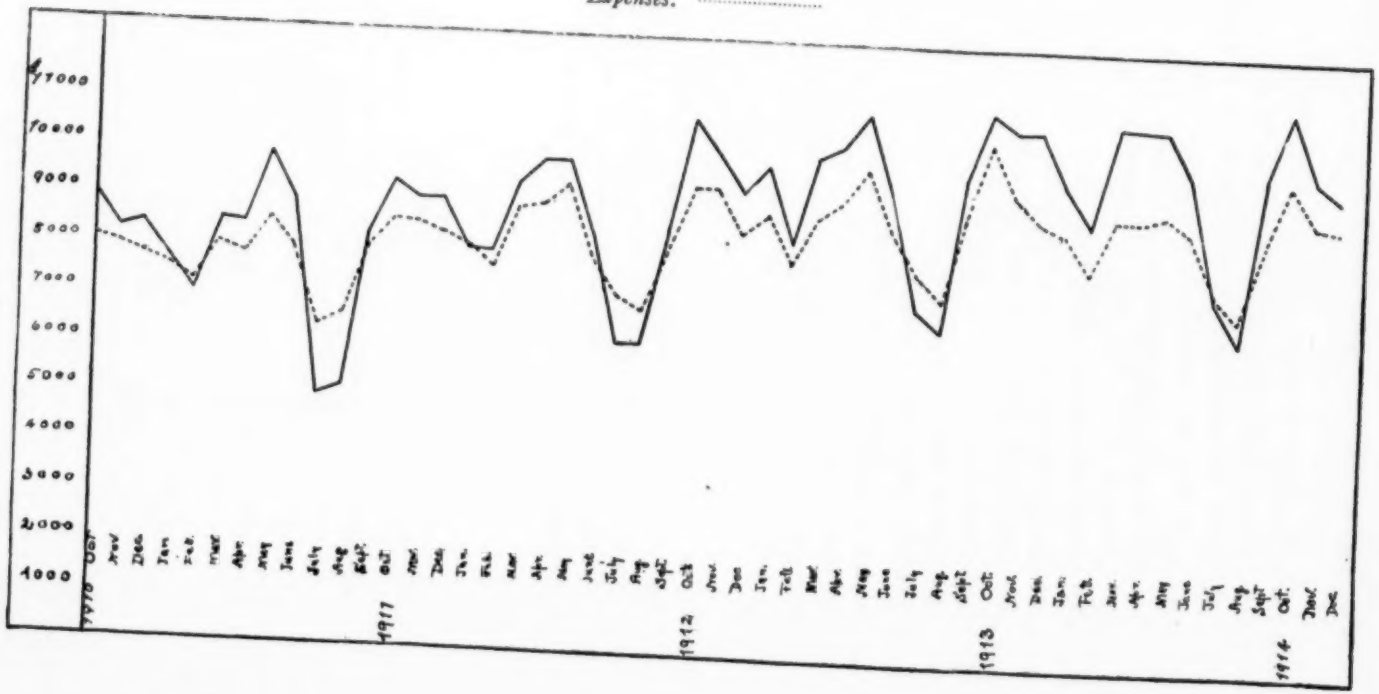


TABLE IV

Receipts and expenses in the lunch department from October, 1910, to December, 1914.

Receipts. ——————

Expenses. .....



$500 a month was to be expected in the year's receipts, or that we should look for a business of not more than $113,000. A more sanguine estimate would be $115,000. In order to show the effect of more or less business on the amount of surplus turned in by the Department, estimates were made on yearly receipts aggregating, respectively, $113,000 as in 1912–1913, $119,000 as in 1913–1914, and $115,000, the highest figure that seemed within the range of probability for the present year.

The overhead charges were known very definitely for this year, including as they did the fixed charges for rent, for services of the financial office and the purchasing agent, and for depreciation. No matter what the volume of business amounted to the Department would have to pay about $10,400 for this item of expense.

The salary demand was estimated to be $1000 more than in 1913–1914 for the same volume of business. That is, a business of $119,000 would mean a salary expense of $32,000. The Director felt this might be cut to $31,600 on a business of $115,000, or to $31,400 on the $113,000 basis.

It remained to determine the amount required for food supply and other expenses in the three instances, and here we could do no better apparently than to use the average percentages in each case as shown in Table II. For other expenses the average of 7.5 per cent of the receipts seemed a reasonable allowance and the figure was so calculated in Table XI.

TABLE V

Food supply in lunch department

	1912	1912–13	1913–14	1914–15
October		$5,250.52	$5,786.39	$5,511.70
November		4,898.71	5,141.72	4,891.18
December		4,473.60	4,808.48	4,739.68
January		4,726.65	4,481.20	
February		4,088.86	4,064.49	
March		4,810.51	5,009.46	
April		5,050.89	4,909.48	
May		5,562.11	5,121.08	
June		4,819.88	4,640.94	
July	$3,394.91	3,860.24	3,707.39	
August	3,119.15	3,571.58	3,419.95	
September	4,169.91	4,838.63	4,845.23	

In this particular business the food supply is the largest and most significant item of expense and the average percentage was not adopted until every available factor affecting the food supply had been examined.

TABLE VI

Attendance in lunch rooms

	1912	1912–13	1913–14	1914–15
October		24,864	25,544	26,203
November		23,440	24,259	23,139
December		21,569	24,742	22,416
January		22,932	22,675	
February		19,206	20,729	
March		23,153	25,031	
April		23,216	23,935	
May		24,295	23,601	
June		19,962	21,295	
July	13,896	15,535	16,327	
August	13,301	14,177	14,120	
September	19,060	21,471	22,208	

TABLE VII

Food percentages in lunch department

	1912	1912–13	1913–14	1914–15
October		48.6	51.6	48.1
November		48.0	47.5	48.4
December		47.5	44.5	49.1
January		47.6	46.0	
February		48.6	45.2	
March		47.1	45.7	
April		52.9	45.0	
May		50.0	47.1	
June		51.3	45.9	
July	53.4	53.6	48.4	
August	49.3	52.7	50.4	
September	48.4	49.3	47.8	

Tables V, VI and VII give the food supply, attendance, and food percentages, from October, 1910, to December, 1914. Table VIII gives the Annalist index figures for commodity prices by months from January, 1913, to December, 1914. These index figures,[2] published weekly

[2] For methods of constructing index numbers see Bowley, Elements of Statistics, p. 217.

in the New York Times Annalist since January 1913, appeared to be the best outside factor to consider. They are sensitive to price movements, being based upon twenty-five food commodities so selected and in such amounts as to give each of the large food elements a normal influence, and they are practically independent of the peculiar characteristics of any one business. Since they are in percentage form, a comparison with the food percentages was the most convenient one to make. Table X presents the figures of Table VII and VIII graphically, while Table IX shows the figures of Tables V and VI in a similar way. The former did not reveal any close connection between food percentages and general price movements, but Table IX, as we should expect, exhibited a very close correspondence between attendance and food supply.

TABLE VIII

Annalist index numbers

	1913	1913–14	1914–15
October		141.80	149.66
November		141.50	150.01
December		141.84	146.78
January	136.3	142.45	
February	136.7	141.27	
March	139.1	142.33	
April	141.1	141.12	
May	137.1	139.23	
June	136.9	141.52	
July	138.9	144.88	
August	139.0	152.11	
September	142.7	160.77	

TABLE XI

Estimated budgets

Receipts	$119,000	$115,000	$113,000
Items of expense:			
Overhead	$10,400	$10,400	$10,400
Salaries	32,000	31,600	31,400
Other expenses	8,925	8,625	8,475
Food supply	58,310	56,350	55,370
Surplus	$ 9,365	$ 8,025	$ 7,355

The correspondence was even more apparent in Table IXa, which is drawn on the logarithmic[3] scale and shows the proportional changes from month to month.

These figures and charts led to no better prediction for the percentage to be used for the food supply than the average. There seemed no reason to estimate below this figure, since it had to be admitted that the Department was not likely to do as large a business as in 1913–1914 (an important factor in determining the food percentage), nor could it expect to buy food commodities at as low a price as in that year; while to adopt a larger percentage appeared unduly pessimistic. Accordingly the expense for food supply was figured at 49 per cent of the assumed receipts.

The results[4] of these estimates for the three cases are given in Table XI and appear to be justified by previous experience. Comparing, for instance, the actual surplus for 1912–1913, when the business was $113,000, with the figure in Table XI we have $7572.10 against $7355. If in Table XI we adjust the surplus there predicted for a business of $119,000, the size of the business in 1913–1914, by taking into account the $1000 that was added for salaries and the advantage due to a food percentage of 47.2 per cent instead of 49 per cent, namely, $2142, the surplus would stand at $12,507, which is a close approximation to $12,607.61, the actual surplus for that year.

The budget previously submitted after a less detailed and statistical analysis led to the expectation of a surplus of $8000. The conclusions drawn from this more extended study were as follows: very good conditions might possibly bring an $8000 surplus on a $113,000 business; if the business ran to $115,000 it was fairly safe to expect an $8000 surplus; and there appeared to be no justification at the time the study was made for setting any higher figure.

The above method is thus doubly confirmed by applying it to the business of preceding years and by comparing it with an estimate obtained by a totally different method. There seems no reason why it should not be used with satisfactory results in any business where accounts are so kept as to afford the necessary statistical material.

[3] For method see Bowley, Elements of Statistics, p. 188.

[4] It should be noted that the results of this method were not known until Table XI had been fully calculated, each item being determined independently on the best available information that affected it alone.

Supplementary Note. It is interesting to compare the actual figures with the estimates on what appeared to be the most probable volume of business in December, 1914, when the prediction was made.

	ESTIMATED	ACTUAL	
Receipts	$113,000	$111,385.86	
Items of Expense:			
Overhead	10,400	10,385.61	9.3%
Salaries	31,400	31,383.88	28.2%
Other Expenses	8,475	8,443.04	7.6%
Food Consumed	55,370	53,352.07	47.9%
Surplus	7,355	7,821.26	7.0%

The attendance was 251,536 against 264,466 in the preceding twelve months, justifying the estimated decrease in receipts. The total receipts were as close to the estimated $113,000 as could reasonably be expected in a figure depending on so many factors beyond the control of the Director. The overhead charges were of course close to the estimate, and the salaries were practically settled in advance for the *minimum* amount of business. The other expenses, estimated on the average percentage, varied only one-tenth of 1 per cent (being 7.6 per cent of the receipts instead of 7.5 per cent), indicating the unusually steady management of the business. The Annalist index figures for the twelve months do not appear to have been influential, but the fact that the food consumed was 47.9 per cent instead of the estimated 49 per cent supports the conclusion that good puchasing and care in serving are more important than general price movements in keeping this figure low. The *sanguine* estimate for surplus on a business of $113,000 was $8000, or about 7 per cent: the actual surplus was 7 per cent on $111,385.86.

A STUDY OF CONDENSED AND EVAPORATED MILKS

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The use of condensed and evaporated milks is very widespread at the present time. The extent to which the industry has developed in this country during recent years may be realized when it is known that about fifty years ago there were only four or five factories producing condensed milk in the United States. Less than fifteen years ago there were fifty factories, and today there are over three hundred establishments having a capacity of 15,000,000 pounds daily. It must be evident that the ways in which condensed milk is used have increased very materially. Formerly it was regarded as a food product to which recourse could be had when it was impossible to obtain fresh cow's milk. At the present time, however, condensed milk is widely used as a substitute for fresh cow's milk even though the latter is available. It is used to a considerable extent as a food for infants and invalids, and very largely in the manufacture of ice cream.

The present extensive use of condensed milk products suggests some inquiry into the character and quality of the milks found on the market. A great many people are led to believe that condensed milk is cheaper than ordinary fresh milk. Obviously this can not be true, for it would not be possible to manufacture a condensed milk having the food value equivalent to that of whole milk at a cost less than that of whole milk. It is possible, however, by the removal of part of the butter fat to manufacture a preparation having a lower food value.

It is true that the price of condensed milk has decreased with improved and cheaper methods of manufacture. In 1880 the average value per pound in the United States was twelve cents and 1890 it was nine cents. At the present time it is slightly more than nine cents, because of the fact that standards have been more definitely set. A price as high as thirty cents was reported in Massachusetts in 1890. Theoretically the differences in price should, to a certain extent, furnish a criterion of the quality of the product. This was probably true to a greater extent formerly than at the present time when there is greater uniformity in the quality of the different brands manufactured.

Studies have been made to determine whether the use of condensed milk is based on economic principles. Such a study was undertaken

by Jordan and Mott, who examined a number of brands of milks sold in Massachusetts. As a result of their work, they found that if these milks were diluted to make a quart of standard Massachusetts milk containing 3.35 per cent of butter fat, they would cost more than ordinary milks and sometimes more than certified milks.

Facts like the above and the printing of certain misleading statements on the labels of some brands of condensed milk, make it clear why definite standards need to be set. Such a statement as the following, "Diluted with three parts of water makes it equal to ordinary cream," appearing on a certain brand of evaporated milk which on chemical analysis was found to contain 7.2 per cent of butter fat (equal to 1.8 per cent if diluted as directed), is an illustration of fraudulent labeling.

Standards have been adopted by a number of states, though there are still several which are without any such rulings. A national standard has been under discussion for some time. At a recent meeting of a Joint Committee on Definitions and Standards from the American Association of Dairy, Food, and Drug Officials, the Association of Official Agricultural Chemists, and the United States Bureau of Chemistry, Department of Agriculture, the following standard was adopted:

> It is recommended that the standard for "condensed milk," "evaporated milk" (Cir. 19, Office of the Secretary, United States Department of Agriculture, p. 6, B. a, 6) be changed to read as follows:
>
> Condensed milk, evaporated milk, concentrated milk, is the product resulting from the evaporation of a considerable portion of the water from the whole, fresh, clean, lacteal secretion obtained by the complete milking of one or more healthy cows, properly fed and kept, excluding that obtained within fifteen days before and ten days after calving, and contains, all tolerances being allowed for, not less than twenty-five and five-tenths per cent (25.5%) of total solids and not less than seven and eight-tenths per cent (7.8%) of milk fat.

This standard does not include any statement in regard to the degree of dilution necessary to render the condensed product equivalent to whole milk, a matter which has been considered of sufficient importance to be incorporated into the standard of at least one state. Only by a statement of this kind can information be conveyed to the public as to the real quality of the milk.

The bacteriology of condensed milks is a matter which has received comparatively little attention. One advantage that has been claimed for condensed milks, is that they are "sterile," but this is not always the case, particularly with regard to sweetened condensed milks. It would be natural to suppose that the process of manufacturing would kill all the bacteria present in the original milk, but when it is remembered that the process of condensing is done at a temperature considerably below 100°C., it is not difficult to understand why some bacteria survive. The condensing process proper consists in heating the milk, after a preliminary pasteurization, in vacuum pans in which the boiling temperature is much lower than under conditions of ordinary atmospheric pressure. The so-called evaporated milks, which are simply milk concentrated to one-half to one-fifth of the original volume, without addition of sugar, are subjected, after canning, to a final heating which, if conducted properly for a sufficient length of time, should kill all vegetative forms as well as all spore-bearers. However, bacteria have been found in these milks by several observers.

The sweetened varieties of condensed milks are quite generally conceded, by all those who have investigated the subject, to contain bacteria. These milks on account of the high sugar content, cannot be heated to a high temperature after canning, as are the unsweetened varieties, and therefore it follows that organisms which survive the pasteurizing process are often found in the condensed product.

As far as investigated, the bacterial content of condensed milk appears to be limited, although counts as high as 1,000,000 per cubic centimeter, have been found in a few cases. It is doubtless true that the viscosity of the medium, and, in the case of the sweetened milks, the high sugar content, tend to inhibit the growth or multiplication of certain of the organisms present. Andrewes in England, however, has proved experimentally that the organism *Staphylococcus aureus* could multiply enormously in condensed milk, under both aerobic and anaerobic conditions.

The kinds of bacteria which have been found in condensed milk bear a close relationship to those found in ordinary fresh milk, or, more properly speaking, to those found in pasteurized milk. The organisms present are those which survive the pasteurizing process and also those which may enter from the air and from other sources in the processes of condensing and canning. The following varieties of bacteria have been isolated by different workers: *Streptococci*,

Staphyloccocci, *B.Enteriditis sporogenes*, lactic acid producing bacilli, *B. Subtilis*, *B. Mesentericus*, and yeast cells. *B.Coli* have been reported in one or two investigations.

The Streptococci isolated have been shown by their fermentative reactions in various carbohydrates to include those varieties which are designated as milk Streptococci and which are often present in normal milk, as well as varieties derived from cow manure. *Staphylococcus (pyogenes) aureus*, a pus-producing organism was recently isolated by Andrewes in almost pure culture in a number of cans of a certain European brand of condensed skimmed milk. He considers the presence of this organism in such large numbers as objectionable and a ground for condemnation. A number of investigators have examined condensed milks for tubercle bacilli, but so far no true tubercle bacillus has been isolated.

The bacteriology of condensed milks is a subject which has not been thoroughly investigated. Not enough tests have been made to say definitely what is the significance of bacteria in such milks. The fact that bacteria are present may be of no more significance than that they are present in pasteurized milk, aside from the fact that condensed milks are not always sterile as they purport to be. However in view of the fact that condensed milks are often used as infant food it is necessary that precautions be taken to obtain an absolutely safe product. Cheap grades of milk which contain a deficiency of butter fat and which are highly contaminated are as unsuitable for condensing as for other purposes. Condensing no more than pasteurizing can make a good milk out of a poor one and therefore it follows that only the best milk which comes up to the standards required of whole milk should be used in the manufacture of the condensed products.

FOR THE HOMEMAKER

AN EXHIBIT OF INSTRUCTIVE VISITING HOUSEKEEPING

JANE TEARE DAHLMAN

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Roxbury, Mass.

The first exhibit of Instructive Visiting Housekeeping in Boston was held at the Twentieth Century Club on May 6, 1915. The exhibit, which considered only one of the problems of the instructive visiting housekeeper, the food problem, was prepared by a few social workers assisted by teachers and students of Simmons College. A brief history of this exhibit and the events that led up to it will be of value to housekeepers and club women who are interested in this work.

In January, 1915, the New England Home Economics Association appointed a social workers committee, hoping to interest the social workers and public health nurses in Home Economics. At the first meeting, in February, Miss Shaw of Denison House gave a talk and demonstration on Syrian Foods; Mrs. Lydia Fillides, formerly a teacher in the American College in Smyrna, followed with a talk on Grecian Foods. Mrs. Fillides had prepared several Grecian dishes and delighted her audience with a sample of each. Mr. Shooshan, one of our successful restauranteurs, told about the Armenian foods. He, too, brought with him several of his native dishes, of which each one was given a generous serving. The last two speakers pointed out many of the wasteful extravagances of American cooking. They also spoke of the comparatively little time and thought that the American housewives give to the feeding of their families.

In March Rabbi Levi lectured on "The Dietary Laws of the Jews." In April Mr. DeMarco gave a picturesque and instructive talk on the "Food of the Italians," and Mr. Paolera served several Italian dishes which he had specially prepared.

At each of these meetings much interest was shown and many questions were asked by both the public health nurses and the settlement workers. The Instructive Visiting Housekeepers felt that the food problem ought

not to be dropped with the consideration of these five nationalities in a cosmopolitan city like Boston, but should be continued so that social workers dealing with families of other nationalities would have some basis upon which to work intelligently. Consequently these two enthusiasts mapped out a plan approved by the President of the New England Home Economics Association, which, with various modifications and changes, was successfully materialized just six weeks from its inception.

A meeting was called April 1 to discuss plans for an exhibit on the "Feeding of the Family of Small Income." Those who attended represented the Cambridge Associated Charities, the Ruggles Street Neighborhood House, the Roxbury Neighborhood House, the Norfolk House Centre, the Jamaica Plain Neighborhood House, and the Roxbury Charitable Society. Each member of this group volunteered her services, the work was divided, and immediate action was enthusiastically entered upon.

Each following Thursday noon this group met at lunch and discussed the problems of the work, making many necessary changes. They were assisted by members of Simmons College, the Executive Board of the New England Home Economics Association, Hale House, Wilcox Hall, and other organizations.

Miss Stern and Miss Spitz gave the committee the privilege of using menus for one week from their book entitled "Food for the Worker," which they are now compiling. In this book the cost is computed at 20 cents for each person for each day, exclusive of one quart of milk daily for each child to drink. They gave not only the menus, but the caloric and cost computations and the food analysis.

Miss McMullen of Roxbury Neighborhood House made separate menus for "Dinner Pails" and "Working Girls' Lunches." She compiled for one week the food analysis, the caloric value, and the cost of each of these, a piece of work which attracted much attention. A full dinner pail and an attractive lunch is always a problem to the housewife.

Dr. Blood and the students of Simmons College worked with the Overseers of the Poor grocery order and demonstrated the fact that a family of five can sustain life for one week on $2 worth of highly concentrated, although not the most attractive food, plus one quart of milk a day. They then demonstrated the best use of an extra dollar and a half added to this. In both instances they gave the amount of each kind of food, the cost, the caloric value, the protein, and the mineral content. Dr.

Blood made it quite clear, however, that she does not advise that people live continuously on this diet, for health and efficiency require more food and more variety; but she maintains that it can be done for a short time, if circumstances demand it,—a valuable basis for future, as well as for present work.

Miss Lundberg, with the aid of the students of Simmons College made a list of meat substitutes, giving their protein content and cost compared with meats. Beneath this chart was a table of most attractive food which held the attention of many who wish to cut down the expenditure for meat. Miss Helen Warren, Teacher of Domestic Science at St. Joseph's Academy gave an exhibit of the food values of cereals and their cost. She showed very clearly the difference in cost between cereals bought in bulk and in package form. She also demonstrated many attractive ways of serving cereals other than as breakfast foods.

Miss Spellman of the Elizabeth Peabody House showed a kitchen fitted up at low cost, of particular interest to brides-to-be, as well as to housewives who wish to replenish. At a table near the door publications on domestic science were exhibited.

The exhibit was open from eleven in the morning until six in the afternoon. At the four o'clock meeting Mr. Robert O. Small, Deputy Commissioner of the State Board of Education, and others spoke. So much interest was shown by social workers and by the public in general that the room was early filled to its capacity and many could not obtain admission to the hall at the time of the meeting.

The Children's Aid Society has sent a very encouraging letter and a check for $25.00 to help pay the cost of the publication of the tabulations of this exhibit. Several requests have been received for this material from persons who saw or heard of the exhibit in Boston and from delegates to the National Conference of Charities and Corrections in Baltimore, where the charts were shown by Mr. Estabrook of the Roxbury Charitable Society and Mr. Warren of the Boston Associated Charities. The exhibit was displayed in the room adjoining the large auditorium in which the meeting on "The Family and Community" and several of the general sessions were held. They have also been shown at a vocational conference in Boston at an exhibit of the New Bedford Industrial School, at the Summer Schools of Teachers' College and Simmons College.

HOUSEHOLD CHEMICAL TESTS FOR TEXTILE FABRICS

JEAN G. MACKINNON

Assistant Professor Textile Chemistry, Iowa State College

The usual chemical tests for the identification of textile fibers call for a five per cent solution of potassium hydroxide for silk and wool, and for sulphuric acid for cotton and linen. Since these materials are seldom found in the household, such tests have been of little value to the home. At Iowa State College the following study of tests has been made, using only materials which are found in the average home and giving in familiar household terms the amount of the material used. The washing powders used were chosen as typical ones in ordinary household use. Other powders of the same strength would serve as well.

Tests for Wool and Silk

Materials	Amount Used *tablespoonfuls*	Time *minutes*
Washing soda	4	20 to 30
Pearline	5	20 to 30
Star naphtha	5	20 to 30
Gold dust	5	20 to 30

The washing soda must be rolled to a powder with a rolling pin to insure accurate measurement; this is easily done if the supply has been in the house for some time. Use a sample of fabric an inch and a half square. Add the washing soda or washing powder to a pint of soft water in a granite pan and boil the sample for the time indicated in the table. This boiling should be carried on slowly to avoid spattering and more water should be added from time to time to replace the water lost by evaporation during boiling.

A gelatinous result will be obtained in every case, unless the fabric is all or nearly all cotton. Transfer the sample with a wooden spoon to clear water and rub between the finger tips. The gelatinous material will disappear in the water, while any cotton threads will remain unchanged. That the sample retains its shape in this way is an advantage, because as it is rubbed in the water it can easily be seen just what threads in the warp and the filling are cotton. A firmly woven all-wool fabric does not form a soft jelly at the end of twenty minutes. This shows the necessity of boiling thirty minutes as indicated in the table.

In the case of silk, characteristically greater resistance to boiling alkalies than that of wool is shown with the washing soda and the washing powders. In the silk and cotton mixtures, a gelatinous condition of the silk will be found at the end of twenty-five minutes, the boiling being carried on with the same precautions as with wool. An all true silk sample will be greatly decreased in strength with thirty minutes' boiling and a true silk and Tussar silk mixture will be decreased in strength as far as the true silk threads are concerned.

COTTON AND LINEN

It is very difficult to find household chemical tests to distinguish between cotton and linen, since these tests depend on strong acids. The acetic acid of vinegar and the lactic acid of sour milk are not strong enough to bring about any change in the vegetable fibers. However, many households use oxalic acid and muriatic acid for stain removing purposes and these acids were used in the following tests.

In using muriatic acid, thoroughly wash the sample of fabric and rinse it in hot, soft water to remove the finishing material. Dry thoroughly and place in hot muriatic acid for one minute. Transfer quickly to fresh water. If the fabric is all cotton, the sample will drop into minute pieces, while if it is linen the shape will remain unchanged. The special precaution to observe in this test is the accurate timing of the experiment and care in transferring the sample from the acid to the water so that no holes are in the fabric.

In using oxalic acid, make a saturated solution by adding the crystals to water till some remain undissolved. Pour off a half pint of the clear liquid and boil the sample in this liquid for fifteen minutes. Then remove and allow to dry without washing. Test the strength of the fabric. Cotton samples will be found to be very brittle, while linen remains comparatively firm.

Neither the muriatic acid nor the oxalic acid test is valuable for a cotton and linen mixture, except that there is a difference in degree of the weakening of the fibers. The muriatic acid test was found to be useful in distinguishing a cotton fabric that is claimed to be linen, the chief form of adulteration of cotton and linen fabrics.

POTATO STARCH AND ITS USE IN THE HOME[1]

The object of this recipe is to make possible the use of the culls and bruised and otherwise unmarketable potatoes and transform them into a desirable and practical product for home use.

EQUIPMENT NEEDED

Two clean pans, vats, or galvanized tubs, one large pan, one cylindrical grater, plenty of clean water, and wiping cloths. Instead of the grater a sausage grinder can be used to advantage for the grating of the potatoes. When using the sausage grinder it will be necessary to cut the potatoes into small pieces before feeding into the grinder.

RECIPE FOR MAKING HOME-MADE POTATO STARCH

Wash potatoes thoroughly, using plenty of water and a vegetable scrubbing brush. Seat yourself in a convenient position, with a vessel containing potatoes at one side and an empty vessel for the gratings on the other. Place dish pan with grater on low small table or upon your lap. Without removing the skins, grate your potatoes by hand or run them through the sausage grinder. Empty gratings into the second tub or vessel. Continue this operation until your vessel is one-half or two-thirds full of pulp, or until your potatoes have been used.

Pour clean water over the gratings. Stir well, so as to saturate every particle with water. Allow to stand for a little time and then remove the peelings and other floating material from the top of the water. Stir again, add a little more clean water and allow the same to stand for several hours or over night. The starch granules will settle to the bottom and all pulp and potato skins will rise to the top of the water or settle on top of the starch granules. Remove the water carefully, also the pulp and skins. Scrape the dark coat off the top of the starch formation, being careful not to remove any of the starch.

A second time pour fresh, clean water over the starch. Stir thoroughly. Allow to stand for several hours or over night. Remove water and pulp as before and add another application of water. Continue this as often as is necessary to render your starch perfectly white and free, not only from pulp but from all sand or sediment of any kind which is not pure starch.

[1] From the Office of Extension Work, North and West.

This operation can be abbreviated somewhat by rinsing the first time and then straining the pulp, starch, and water through cheesecloth or cloth of finer mesh.

Potato starch is a healthful food and can be used in many ways for food purposes, in the making of puddings, salads, milk dishes, etc. It is an easy method and one that children will enjoy, an excellent laboratory experiment or demonstration for the school or Home Economics department, with the idea of furnishing recipes and preparing potato-starch dishes.

In nearly every potato section of the United States thousands of bushels of cull potatoes are wasted every year which could just as well be utilized in this way through the manufacture of potato starch.

Starch-making demonstrations and demonstrations in the preparation of dishes are recommended especially for fairs and club festivals in the interest of potato club work.

PROFITS IN COMMERCIAL BAKING, AND THE HOUSEKEEPER

An article, published not long ago in the *Canadian Baker and Confectioner*, which deals in a practical manner with the changes of technique in baking necessitated by new materials and methods, contains the statement that to make a successful baking business a baker must produce baked goods to show a gross profit of at least 50 cents on the dollar for the work turned out. This is a trade estimate based on what the baker regards as a reasonable profit, it would seem. Presumably it includes cost of material, fuel and labor. Is there not something in this statement for the housekeeper to think about? When she buys baked goods, does she save her own time at an increased cost of 50 per cent, as compared with home production? Before we can be sure that the above figure is correct, we need careful studies of the time (and its value), materials and fuel, needed for cake, bread, etc., made at home, and the local prices of similar things ready made. Will not more of our readers help gather such data?

THE COMPARATIVE COST OF HOMEMADE AND BAKER'S BREAD

ANNABELLE MARSH

Sent in response to the article "Made at Home" by Miss Anna Barrows, published in the February (1915) JOURNAL.

The grocer delivered at the door a loaf of bread weighing 24 ounces for which I paid 10 cents.

The question came up whether I could make bread of as good or better quality for less money, including materials, time and fuel in the cost.

Using measuring cups, bread mixer, scales and clock for equipment, I experimented. The table below gives the result.

In the first place, instead of making one loaf I made three, not too many for a family of six such as mine to use, and so saved time and fuel. The same amount of coal that would have been used for one loaf baked three loaves. The time required for making three loaves at once was less than would be needed in making one at three different times. The method used was the straight dough method. The bread was mixed and kneaded, allowed to rise over night, then put into tins, and when light, baked. The entire bread was weighed after cooling. In calculating the cost of materials, the proportion was used which would produce exactly the weight of the baker's bread. The same ratio was used for fuel and time.

The time given included the manipulation of the bread and washing the bread mixer. The calculation of its value in money was based on actual wages received by a woman doing housework at $25 a month, working ten hours a day.

The fuel used was coal. The fire was kept burning continually. The amount weighed and calculated was the extra coal required for heating the oven above what would have been used if the fire had been kept in check.

Materials:

3 tablespoonfuls sugar at 18 lbs. for $1	$0.0052
3 tablespoonfuls lard at 15 cents per lb.	0.014
13 cupfuls flour at $7 per bbl.	0.1183
1 magic yeast cake at 4 cents per box	0.005
	$0.1425

Fuel:	
3 lbs. coal at $7.25 per ton	$0.0108
Time:	
33 minutes at $0.08 per hour	0.044
	$0.1973
Weight of bread	108 oz.
Weight of baker's bread	24 oz.
Cost of 24 oz. of home made bread	$0.0438
Cost of 24 oz. of baker's bread	$0.10

The quality of the homemade was equal to the baker's, but slightly more tender.

BACTERIA IN THE AIR

To the air has long been attributed a subtle potency to incite disease when suitable conditions prevail. One need not go back far in history to reach the days when "night-air" and "sewer-air" were feared as the bearers of indefinable dangers to health. The discovery of the rôle of micro-organisms in the transmission of disease has largely changed this attitude. It is true that air from certain localities, such as soils or sewers, may contain an admixture of gaseous impurities—carbon monoxid and dioxid, marsh gas and hydrogen sulphid—which are not wholesome to man. But these admixtures are, in all except the most unusual circumstances, so small in amount as to have little if any harmful significance for health. The organic or solid impurities of the air give more cause for alarm, for they include the living bacteria. In sewer-air the proportion of micro-organisms is usually less than . . . . [in the air] of streets and houses, and the species are usually harmless. The movement of air in sewers is rather slow, so that abundant opportunity is afforded for the suspended particles, including . . . . [micro-örganisms as well as minute particles of earth and other things which make up "dust,"] to become deposited on the moist surfaces.

There is a growing conviction that in the majority of cases of so-called "air-borne" disease it is not the particulate constituents of the atmosphere that are directly responsible for the transmission of disease. Suspended particles, including bacteria, may, of course, be sprayed

about by the acts of coughing and sneezing and thus aid in the dissemination of diseases, particularly those of the respiratory tract. But as a rule it appears that the diseases conveyed through the air are carried through the agency of insects acting as vectors or as hosts for the infective parasites. In many hospitals, therefore, the "air-borne" diseases are now treated side by side in the same ward without fear of greater transmission than if they were isolated in separate wards. Attention is centered on the possibility of the carrier agency, animate or inanimate, rather than on the atmosphere as such. As a recent speaker expressed a phase of it, the problem is one of wire screens more than of ventilation. Yet a recent systematic study by the New York State Commission on Ventilation showed clearly that the air of occupied spaces such as factories, schools and offices contains more bacteria than that of open spaces in the city or country. It is significant that the increase in streptococci manifests itself promptly in the occupied spaces. Whereas in country or city air there are rarely more than ten of this group of micro-organisms per hundred cubic feet of air, the number may rise to more than forty in factories.

While there is a rapidly growing tendency, supported by much convincing evidence, to teach that ventilation has nothing whatever to do with either the transmission of the so-called "air-borne" diseases or the lessening of their transmission and the opinion is freely expressed that transmission by way of the air is of infinitely less importance than transmission by inanimate and animate carriers that have been in intimate contact with patients, yet the indisputable facts just cited regarding the comparative distribution of certain objectionable bacteria in occupied spaces still deserve respectful consideration in relation to the problems of public health.—*The Journal of the American Medical Association.*

EDITORIALS

The Journal. The success of the 1915 venture of issuing the JOURNAL ten times a year has made it seem possible to go a step further. We are glad to announce that the JOURNAL will be issued every month during 1916.

Home Economics and Business. In business the methods which survive are those which have been found to justify themselves. The fact, therefore, that railways are expending increasingly large sums of money in extension teaching in Home Economics is evidence that they find it profitable. Such teaching in agriculture has long been recognized as a means of promoting the prosperity of railways by developing the farming districts through which they pass. Home Economics was looked upon at first as more experimental, but the fact that it is now almost always found side by side with agriculture in this as in other kinds of teaching, indicates that better homes, like better crops, are considered necessary to prosperity.

An instance of the attention now given to home matters in such "business" extension work, if one may so term it, is found in the work recently carried on in the Southern States, and noted in our news items on another page.

Two Articles. We wish to call attention to two articles in this number, that by Miss Vivian, with its introduction by Professor Cole, and the one so generously contributed by Miss Lathrop.

Miss Vivian's, although technical, is worth study by all who have to deal with a budget in any form. Professor Cole's note in regard to the interpretation of statistics should also be noted, for wrong conclusions based on false interpretation of statistics is one of the many ways in which figures may lie.

Miss Lathop's paper suggests some new work for the Home Economics Association. Some college authorities who have opposed the introduction of Home Economics into the undergraduate course have approved of it as graduate work, since it is professional. If an important

function of the college is "to develop in the student the scholarly method of work," "to point out problems which need investigation" and to "give to the student the scholar's necessary working equipment;" if education is to be made "the interpretation of present civilization and conditions of life," then why should not many of our graduate students, under competent direction, undertake such work as Miss Lathop has suggested, and why should not this association urge such an opportunity upon our women's colleges?

COMMENT AND DISCUSSION

The *Journal of the American Medical Association* of November 20 under the heading Asepsis and the Dish Towel quotes from the JOURNAL OF HOME ECONOMICS and adds:

Among the low-priced restaurants and lunch rooms which are numbered by hundreds in our large cities, there is one (it is but a type—there are dozens like it) whose exterior of white brick and plate glass is as sparkling and bright as a newly frosted cake. Within, an expanse of white enamel, resplendent metal and spotless linen proclaim a devotion to cleanliness rivaled only by the surgical ward in a hospital. The waitresses are as neat and trim as uniformed nurses. In this stainless temple of alimentation one of the immaculate priestesses has been seen to pick up a glass just used by a departing guest, polish it with the dish towel at her belt, and calmly replace it on the table to be used by the next patron! One might instance even more horrifying infringements on prandial decency in more pretentious establishments; one might expatiate on the possible dangers of infection from such practices. The establishments do not lose custom thereby, probably because the public, while vaguely impressed with the beautiful ideal of asepsis or perfect cleanliness, has a pathetically inadequate idea of what it means. It is therefore encouraging to read the article under the heading "The Mischievous Wiping Cloth," in the November issue of the JOURNAL OF HOME ECONOMICS. . . . .

Perhaps, if such ideas as these are becoming current, we may hope for the day when Bridget will invariably sterilize her dish cloth and scorn the dish towel for her aseptic dishes, while "neat-handed Phillis" will always complete her coiffure beyond all revision before coming to serve our food. At any rate, one may always hope.

BOOKS AND LITERATURE

Any book or periodical mentioned in this department may be obtained through the JOURNAL OF HOME ECONOMICS if the Journal price is listed.

Elementary Household Chemistry. By JOHN FERGUSON SNELL. New York: The Macmillan Company, 1914, pp. 307. $1.25. By mail of the Journal, $1.40.

The title of this book will appeal particularly to those who have attempted to teach elementary chemistry to either high school or college girls, who have little interest in or knowledge of "pure science," but who respond to a study of things with which they are closely concerned. The hope of making use of such a book will be further raised by an examination of its contents. While perhaps the author has attempted to do too much in a limited space, still he seems to have been for the most part fortunate in his choice of material. Approximately one-third of the volume is devoted to what may be called elementary chemistry. The remainder consists of more advanced work such as the study of fuels, foods, textiles, soaps, etc., together with the necessary chemistry. All of the subjects are intimately connected with the household. At times the organic chemistry becomes somewhat too involved, as in the discussion of the constitution of proteins, and in the use of structural formulae for the carbohydrates. It seems difficult to believe that such will have much meaning for elementary students.

Laboratory experiments are intermingled with the text. The reviewer believes that this is unfortunate, as in too many cases the results of the experiment may be too easily predicted. For example, if the paragraph on page 22 were read the performance of the experiment of page 23 would be nearly useless. The entire separation of text and experiment would partially overcome this difficulty.

The text is clearly, concisely and accurately written, and is amply illustrated. The book deserves general recognition and use for the purpose intended.

Source, Chemistry and Use of Food Products. By E. H. S. BAILEY. Philadelphia: P. Blakiston's Son and Company, 1914, pp. 517, figs. 75. $1.60. By mail of the Journal, $1.80.

The author has compiled a considerable amount of information regarding the origin, character and use of a large variety of food products, which he has attempted to present in such a manner as to give "a practical knowledge as to what constitutes a good food and where it is obtained." His purpose has been to prepare a book that would serve not only as a sort of compendium of information on food products for the general reader, but also as "a text for students of foods in our colleges and high schools." To the general reader the volume would probably prove interesting and instructive, but more careful editing would improve it decidedly for use as a textbook. There are evidences of inaccuracy or carelessness in preparation that are hardly to be expected in a book designed for the latter purpose.

Laboratory Experiments on Food Products. By E. H. S. BAILEY. Philadelphia: P. Blakiston's Son and Company, 1915, pp. vi + 44.

In this small manual in pamphlet form directions are given for performing 154 experiments "to enable the student to answer the question, of what substances are ordinary food materials composed and how

are they sometimes adulterated, or mislabeled." The experiments are chiefly qualitative and so simple in character that the author would seem to be warranted in his belief that they can be performed, under instruction, by students who have taken a course in general chemistry, though they are perhaps better adapted to those somewhat more advanced.

In general the lesson that the experiment teaches is easy, but in some cases the real significance of the test is not as clear as it might be made. To an instructor in elementary food chemistry who for some reason has been unable to prepare his own course the pamphlet will doubtless prove helpful, but should be supplemented by lectures or textbook lessons for details of the subject. It is designated by the author for use with the book noted above, *The Source, Chemistry and Use of Food Products.*

The Oriental Cook Book. By Ardashes H. Keoleian (formerly of Constantinople). New York: Sully and Kleinteich, 1913, pp. 349. $2. By mail of the Journal, $2.10.

This collection of recipes is interesting not only because it gives directions for making Oriental dishes with materials available in the United States but also because it gives the reader glimpses into the gastronomy of the Near East. According to the preface, Oriental cooking is wholly based on "remarkable combinations of food-stuffs" and "on the theory that no one ingredient used should greatly outdo the others in strength, and that the result should be a perfect harmony." Moreover, cookery in the Orient appears to be regarded as an art rather than a science, and the author confesses to great difficulty in obtaining exact recipes "perhaps for no other reason than this singular one, namely, the non-existence in the Orient, or among any of the Oriental nations—except among the Armenians, and that in an inefficient form—of any regular literature upon the culinary art, which might have served us as a guide among the widely differing recipes and ideas upon cookery that have existed from time immemorial, from the Balkans to Persia, and from Arabia and Egypt to the Caucasus." Under these conditions then, the wonder is not that the recipes given leave amounts of flavoring, etc., to the discretion of the cook, but that they are on the whole so easy to follow. They include a variety of sauces, soups, pilafs, modes of cooking fish, meat and vegetables, made dishes and preserves, many of them suggesting materials and combinations quite unknown in this country.

A descriptive list is given of some of these special Oriental ingredients which may be obtained in this country, among them pickled grapevine leaves, cummin, and hard Balkan cheese.

The regular order of service for the various courses at an Oriental dinner is also given as well as a score of typical menus. To a person interested in learning how the rest of the world lives, these are perhaps a trifle disappointing because they seem to represent elaborate banquets rather than everyday family meals, but they illustrate clearly the Oriental love for elaborate combinations of materials and flavors.

A Text Book of Domestic Science for High Schools. By MATILDA G. CAMPBELL. New York: The Macmillan Company, 1913, pp. 219. $0.90, By mail of the Journal, $1.

This book has a rather broad title since it deals with only one subject of domestic science, namely, food and nutrition. It is simply and comprehensively written to meet the needs and experience of the average high school student.

It does not presuppose much knowledge of either chemistry or physics on the part of the student, but plans for a series of simple experiments, illustrating each new principle.

In the main it is intensely practical, the one exception being the chapter on Table Service, in which elaborate and formal service is made the important feature rather

than the simple service which must be the rule in most homes unless undue labor and expenditure are involved. Knowledge of the essentials of relative value, of the possibilities of "gracious living," is what is most needed by the average high school girl.

The Care of the Baby. By J. P. Crozer Griffith. Philadelphia and London: W. B. Saunders Company, 1915, pp. 463. $1.50. By mail of the Journal, $1.66.

This very suggestive book dealing with the care of children in health and in illness is much more comprehensive than the usual book dealing with these subjects, and for this reason will appeal strongly to mothers, and to many others who have to do with children.

The first chapters consider the care of the mother before the baby comes, the characteristics of the healthy baby and its needs. In subsequent chapters are discussed such subjects as the suitable clothing for the baby; methods of feeding; conditions for rest and exercise; the training of children. A considerable portion of the book is devoted to the sick baby. Symptoms of the various childrens' diseases are outlined, and directions for treatment are given in such cases as can be relieved without medical advice. An appendix contains many useful formulae for various household remedies.

Those chapters dealing with feeding are in the main helpful. However, the same criticism may be made here as in many other popularly written books dealing with infant feeding. One finds statements made which are not in accord with scientific teachings. For example, rules are given for modifying breast milk as follows: "To increase the fat, increase the meat in the diet. To decrease the fat, decrease the fat in the diet. To increase the proteins, decrease the exercise. To decrease the proteins, increase the exercise to the point of fatigue." (Page 131.) Recent investigations have shown that the variations in both fat and protein are dependent upon individual characteristics, more especially inheritance (breed in the case of cows) rather than upon quantity or character of the food.

The author advocates the use of lime water in infant feeding "in order to neutralize the acidity, and more especially because it aids in the digestive process." Babies seem perfectly able to digest buttermilk, which is distinctly acid; and unless the lime water is added in very definite proportions it will not inhibit the curd formation. Most pediatrists are no longer using lime water in the milk formulae.

Although the directions for making the milk formulae are sufficiently simple, only a food specialist or a physician would know under what conditions these should be given. If there is a fundamental principle involved it is not apparent to the average mother.

The Mental Health of the School Child. By J. E. Wallace Wallin. New Haven: Yale University Press, 1914, pp. 464. $2.

Dr. Wallin is one of the specialists in the field of mental health, and his earnest convictions and incisive proposals regarding the responsibility and special duties of the schools in relation to the mentally unusual children are entitled to serious and thoughtful consideration. This book is a collection of articles and addresses prepared by the author for use on different occasions in exposition of his knowledge and opinions concerning various closely related phases of the general field indicated by the title of the book.

It seems unfortunate that the valuable material in this volume could not have been conveniently arranged in a smaller book with a more systematic classification of material and a more concise and telling presentation.

However, the writer marshals a sufficient body of facts, opinions and arguments to provide strong support for his main contentions:

(a) That the maladjusted and mentally atypical pupils in the school should be recognized, understood and properly provided

for according to their individual conditions and needs.

(b) That, for this special task of identification, classification and technical guidance a new type of thoroughly trained educational expert is needed which the author would call a "psycho-clinicist" or a "clinical psychologist."

(c) That an intelligent and really capable specialist in this educational field must have a new kind of professional training, including (in addition to other kinds of training) intensive study of abnormal psychology and one or two years of clinical and educational experience in the special field under the guidance of a recognized expert.

In the chapter on the "New Clinical Psychology" some valuable factors are given emphasis in relation to the comprehensive task of vocational direction. In another place just emphasis is given to the importance of having the school give recognition and opportunity to the super-normal—the gifted children. In chapter twelve an interesting and suggestive comparison is made between the fields of euthenics and eugenics. Later, in discussing the difficulties and advantages of legal enactments safeguarding marriage, the vital principle is emphasized that "after all, the problem is not so much to get proper laws enacted as to secure the public sentiment that will demand their enforcement."

Perhaps the most important fundamental proposition of this entire work occurs in the introduction to the seventeenth chapter. This reads in part as follows:

"The preservation and promotion of the mental, physical, educational, social, moral and vocational efficiency of the individual is not only the most vital problem that confronts each human being, mature or immature, but it is also the problem par excellence of the family, state and school. The obligation for the reclamation, conservation and improvement of child life is being largely transferred to the state. The state has no agency which is able adequately to cope with the numerous problems involved except the public schools."

PAMPHLETS RECEIVED

The Arrangement of Household Furnishings. By Helen Binkerd Young. Ithaca, N. Y.: New York State College of Agriculture at Cornell University, April 1, 1915. pp. 11. (Cornell Reading Courses—Course for the Farm Home, vol. 4, no. 85, Farmhouse series no. 7). Free to residents of New York State. Address the Dept. of Home Economics, College of Agr., Ithaca, N. Y.

School Lunches in Philadelphia. School Lunch Committee Home and School League, 4th Annual Report (1913–1914). Philadelphia: 1505 Land Title Bldg., 1915, pp. 63.

Suggestions for Programs and Club Study with Topics for Discussion and Bibliographies. General Federation of Women's Clubs, Dept. of Home Economics, 1915, pp. 48. $0.10. Miss H. L. Johnson, 234 Paddock St., Watertown, N. Y.

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NEWS FROM THE FIELD

Quebec Homemakers' Clubs.—The history of these organizations as compared with that of the other provinces in the Dominion is unique inasmuch as the women of Quebec, unassisted by the Government, began this work themselves. In all the other provinces of Canada, the provincial government has not only assisted in establishing Agricultural Societies for the benefit of the farmers, but has established separate organizations for the women of the farm homes, and has made special provision for giving them instruction along lines bearing directly upon the duties devolving upon them as homemakers.

In 1914, Macdonald College promised to aid the clubs in every way possible until such a time as the Government should come to their assistance. The Government has now agreed to aid in printing the handbooks.

A circulating library, consisting of Government bulletins, pamphlets and magazine clippings, was started by the School of Household Science in 1912, and has been available for clubs for use in preparing programs for their meetings.

Besides the circulating library just mentioned the School of Household Science sends out for use in the clubs four traveling libraries of thirty-five volumes each, twenty-four of which deal with subjects pertaining to household science, and the remainder are standard works of fiction, poetry, biography, etc. Lectures and demonstrations are given by the college demonstrator and by members of the Household Science staff.

At the second annual convention of the clubs held at Macdonald College, June 15–16, 1915, the report of Miss Campbell, demonstrator for the clubs, showed that since the last convention the clubs had increased from eight to thirty-three, and the membership from 252 to 633.

The object of the Quebec Homemakers' Clubs as set forth in the Constitution is as follows: "The object of Homemakers' Clubs shall be to study the most scientific way of conducting home work in order to economize, strengthen and preserve the health of the family; to discuss the best expenditure of money in order to secure the highest conditions of home life; to provide better financial, social and intellectual advantages for farm boys and girls and yet keep them on the farm; to carry on any line of work which has for its object the welfare of home or community life."

The Garland School for Homemaking opened on Wednesday, the sixth of October, with seventy students.

The new members of the faculty this year are Miss Mabel Hill, Associate-Director; Miss Harriet Park, Secretary and Science teacher; Mrs. Margaret H. Abels, Econonomics; and Miss Alice Jordan, Children's Literature.

One of the most interesting of the new short courses is the one given by Mr. Thomas Whitney Surette, on music. The first two lectures are on music for children; the second two deal with music in relation to poetry, painting, and sculpture; the next group with classic and romantic music, and with the symphony and the opera. The course ends with special lectures on Bach and Beethoven.

Other short courses open to the general public are those in Applied Economics, Applied Sociology, The Study of Child Psychology, Household Management, Home Nursing, and Business Knowledge necessary for the Homemaker.

A new home-house opened this fall so that there are now three of these practice houses in which the students live through the year in family groups.

Detroit Home Economics Association.—The November meeting of the Detroit Home Economics Association was held in the Detroit Federation of Women's Clubs Building, Saturday, November 13, with the President, Miss Deda L. Emmons presiding.

Music was furnished by the Misses Fraser, with violin, cello, and piano. Mr. John H. Trybom, Director of Manual Training in the public schools, gave the Address of Welcome. Miss Isabel Bevier, of the University of Illinois, spoke upon Art in the Home, dividing her subject into the construction, the decoration, the industries, and the spirit of the house. Dr. Chas. E. Chadsey, Superintendent of Schools, followed, expressing the hope that within a short time one-fourth of a girl's school-life, from the third grade on, could be spent in the study of Home Economics in the broadest sense.

Preceding the meeting, a luncheon in honor of Miss Bevier was given at the College Club, about fifty guests attending. Guests were present from Ypsilanti, East Lansing, Saginaw and Wyandotte.

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The Home Economics Association of Greater New York held a meeting on December 3 in commemoration of Mrs. Ellen H. Richards. Mrs. V. V. Farone, manager of the Fifth Avenue Restaurant and also of the Madison Square spoke on "Marketing for One Thousand."

The School of Household Science and Arts of Pratt Institute served a supper for the Association on December 1.

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The Minnesota Home Economics Association held its second annual meeting in Minneapolis, October 29 and 30.

Representatives from the Housewives' League and the Woman's Club were present. A luncheon was served on October 29, at the East High School. Seventy-six members of the association were present.

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The Home Economics Association of Washington, D. C., held the second meeting of the year November 9, in the form of an evening trip through Corby's bread factory The large attendance and keen interest of those present suggest that such meetings as this might be planned more often.

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The Sectional Conference on Home Economics.—In response to the invitation of Dr. Claxton, the United States Commissioner of Education, fourteen visiting teachers from ten normal schools in different parts of the South, gathered at George Peabody College for Teachers in Nashville, Tennessee, for the first sectional conference of Home Economics teachers in state normal schools, on Tuesday and Wednesday, November 16, and 17. The conference was under the special direction of Miss Carrie Lyford, specialist in Home Economics of the United States Department of Education. The opening address on Tuesday morning, by Dr. Claxton, showed the great need of an adjustment of normal school courses to the needs of the young teacher, and especially to the teacher preparing herself for work in rural schools.

Tuesday morning was devoted chiefly to a discussion of the proper length of the Home Economics course in such schools, and of what it should include. One problem which nearly all normal school teachers of Home Economics meet is the great demand for a short course in the subject, especially by teachers preparing themselves for grade work, or for rural schools. They seem to expect a sort of "canned course" which will enable them in a few weeks to become thoroughly conversant with the subject.

Other familiar and definite problems considered were the grouping of general studies to be taken parallel to the Home Economics course; the differentiation of the course in the normal school from that in the state university; and how much practice teaching should be given; and where, whether in the demonstration or practice school, or in a rural school under conditions similar to those which a young teacher is likely to encounter.

Suggestions for a follow-up system were given with other ways of keeping in touch

with graduates in the field, and the possibilities of extension work from the normal school were discussed.

The topics which occupied most of Wednesday morning were the standardization of courses in Home Economics and normal school credit for high school work, with the expression of the general opinion that high school work should receive a fair amount of credit but that the normal schools should urge a more or less uniform course of study in the high schools of the different states in order to avoid duplication of work, and to allow the normal school to give more time to other phases of the work.

The final meeting of the conference was devoted to an informal discussion of courses in home management, and to the question of school credit for home work. Miss Virginia Moore, the State Agent for Tennessee in charge of Canning Club work gave a survey of the scope of the work in the state of Tennessee, and the possibilities of its development in rural communities.

The National Conference on Teacher-Training for Rural Schools.—At the same time and place of this Sectional Conference of Home Economics teachers there took place another conference, also called by the United States Commissioner of Education, The Second National Conference on Teacher-Training for Rural Schools. There were present at this conference over a hundred men and women from thirty states—as far East as Vermont, and as far West as Colorado and Texas. They were men and women interested not only in education but in rural life as well, and they came particularly to discuss The Better Preparation of Teachers for Rural Schools. This conference urged that the training of rural school teachers should include instruction in agriculture, home economics, manual training, rural sociology, and economy, hygiene, sanitation and playground work, and that the equipment for the work in agriculture should include a tract of farm land.

The members of the conference propose to introduce a nation-wide campaign for full and equal opportunities for education for every boy and girl of America, and as a means to this end they ask that rural communities shall meet the following conditions:

1. A school term of not less than 160 days for each child.
2. A sufficient number of teachers adequately prepared for their work.
3. Consolidation of rural schools with an average area of about twelve miles for each school.
4. A teacher's home and a demonstration farm from five to fifty acres, a part of the school property.
5. An all-year session adapted to local conditions.
6. A county library with branch libraries at the centers of population with the schools as distributing centers.
7. Community organization with the school as the intellectual, industrial, educational and social center.
8. High school opportunities for every one.

The men and women present at the conference are leaders not only in their communities but in their states and the nation as well, therefore it is reasonably certain that the proceedings of the meetings will bear fruit before long.

Wanted: Facts for Domestic Art.—Mrs. Martha H. French, Director of Domestic Art in the State Normal College, Ypsilanti, Michigan, is collecting facts and suggestions regarding the material and equipment for teaching the domestic art subjects of sewing, dressmaking and millinery, with the idea of making the facts available for teachers in this field.

Those who have to do with domestic art work are invited to contribute from their experience; thus advancing the interests of all.

The National Society for the Promotion of Industrial Education will meet in Minneapolis, January 20–22, with headquarters at the Hotel Radisson.

At this conference reports will be made on the various phases of the Minneapolis survey of schools and industries made by this society during the past year. Suggestions will be given for improving conditions that this survey has revealed.

The American Home Economics Association will be represented by Miss Sarah Louise Arnold, Dean of Simmons College. At a sectional meeting Home Economics training in vocational and other schools will be discussed by Miss Abby Marlatt, Miss Josephine Berry, Miss Lilla Frick, Miss Carrie Wilkerson, Miss Anna M. Cooley, Mrs. Roy Fletcher, and Mrs. Harvey Hickock.

A cordial invitation to be present is extended to all teachers of Home Economics.

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A Railway Demonstration Train. One of the ten cars comprising the Queen and Crescent Development Train, which made a trip through the South between August 15 and September 11, was given over to Domestic Science. There were exhibits of labor-saving devices for kitchen and dairy, and frequent demonstrations of cooking, preserving, and canning were given by Miss Minnie W. Hopper, a teacher in Greensboro College for Women, with several years' experience in school work in Home Economics, and Miss Cora Deddridge, a graduate of the Mississippi Industrial Institute and College, Columbus, who has taught Home Economics and lately has been connected with canning club work in the South. Besides this car, which was particularly helpful to women as housekeepers, there were other exhibits which interested them from the standpoint of money making. These included poultry, vegetables, and other farm products commonly raised by women, and demonstrations of modern methods of packing and shipping.

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Teacher's College. Owing to changes in the management and use of the Speyer School, the work at the Amy Schüssler apartment during the coming year will be different from that of last year. Beginning in February the Speyer School is to be used as an experimental high school for boys, the Board of Education of New York City and Teachers College coöperating. No one will live in the apartment this year but it will be in constant use for neighborhood work. Classes from neighboring institutions will be held there daily, afternoon and evening.

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Brief Notes.—Miss Katherine Mills, Cornell 1914, during the past year held an extension position in Erie County, New York. There was a total attendance of over 3000 at the twenty schools held in different parts of the county. In June Miss Mills was married to Dr. Hamilton of Delphi, New York.

Miss Anna Barrows is to be at the Oregon Agricultural College, Corvallis, Oregon, to give lectures before the Farmers and Home Makers Conference January 3–8. February 1–4 she will fill a similar engagement at the Housekeepers Conference at Logan, Utah. The remainder of February she expects to spend in California and may be addressed in care of Miss Alice L. Thomas, Long Beach, California.

At the meeting of the Maryland State Federation of Women's Clubs held in Baltimore on November 18, 1915, Mrs. Abel, our former editor, who is now first vice-president of the State Federation, and State chairman of Home Economics, presided over the session on Home Economics. Mrs. Norton spoke briefly upon "The American Home Economics Association and the Smith-Lever Bill;" and Miss Katherine A. Pritchett, State Agent, Demonstration Work, U. S. Dept. of Agriculture, explained in a most effective address "How the Smith-Lever Bill Works in Maryland." We hope later to publish this address in the JOURNAL.